

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALMUT KRIEBEL, VOLKER NIGGL,
ERICH PETERS, ROLAND RAUCH and JOSEF SCHNEID

Appeal No. 2004-2284
Application 09/832,873

HEARD: April 21, 2005

Before KIMLIN, WARREN and PAWLIKOWSKI, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 16.

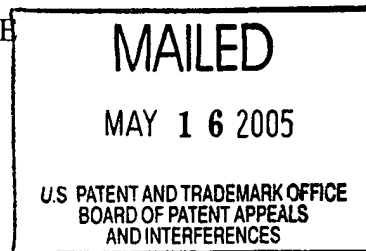
Claim 1 illustrates appellants' invention and is representative of the claims on appeal:

1. A process for dispersing fibrous paper stock comprising:

delivering an aqueous fibrous paper stock;

pressing some water out of the aqueous fibrous paper stock to form a highly consistent coarse fibrous paper stock;

loosening and distributing the highly consistent stock by introducing the highly consistent coarse fibrous stock into an effective area of a mallet roll having circulating mallets extending from a rotating shaft which cooperate with fixed peripheral impact sections, thereby breaking up



the highly consistent coarse fibrous stock passing between the mallets and fixed peripheral impact sections;

transporting the loosened and distributed highly consistent fibrous paper stock into a dispersing machine;

dispersing the transported loosened and distributed highly consistent fibrous paper stock in the dispersing machine.

The references relied on by the examiner are:

Davenport	6,045,070	Apr. 4, 2000
Riquet	1.239.047	Jul. 11, 1960
(French Patent)		
Aktiebolag	2 364 289	Apr. 7, 1978
(published French Patent Application)		
Egenes et al. (Egenes)	WO 96/18769	Jun. 20, 1996
(published World Intellectual Property Organization Application)		
Kriebel et al. (Kriebel '653)	197 12 653	Oct. 1, 1998
(German Offenlegungsschrift)		

The examiner also relies on the following reference "as an equivalent translation" of Kriebel '653 (answer, pages 3 and 4; see also final rejection, mailed October 21, 2002, page 5), which appellants do not dispute in the reply brief:

Kriebel et al. (Kriebel '573)	6,250,573	Jun. 26, 2001 (filed Mar. 24, 1998)
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The examiner has advanced the following grounds of rejection on appeal:¹

claims 1, 5 through 7 and 13 through 16 stand rejected under 35 U.S.C. § 103(a) as being obvious over Egenes in view of Riquet² with or without Aktiebolag³ (answer, pages 4);

claims 2 through 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egenes in view of Riquet with or without Aktiebolag as applied to claim 1, and further in view of Kriebel '653⁴ (answer, pages 4-5); and

¹ The examiner withdrew the ground of rejection under 35 U.S.C. § 112, second paragraph, in the answer (page 2).

² We refer in our decision to the translation of Riquet prepared by the Translation Branch of the Scientific and Technical Information Center (STIC) of the USPTO in August 2003 (PTO 2003-4806).

³ We have considered the translation of Aktiebolag prepared by the Translation Branch of the STIC of the USPTO in August 2003 (PTO 2003-4808).

⁴ We refer in our decision to Kriebel '573 because the examiner relies thereon as a translation of Kriebel '653.

claims 8 through 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Egenes in view of Riquet with or without Aktiebolag as applied to claim 1, and further in view of Davenport with or without Kriebel '653 (answer, page 5).

Appellants state that “each of claims 1-16 are separately patentable for the reasons set forth hereinbelow” (brief, page 5). With respect to the first ground of rejection, appellants present substantive arguments for claim 1 and for each of the groupings claims 6 and 7 and claims 13 through 16, but merely note the “additional features” of claim 5 (brief, pages 17-18). With respect to the second and third grounds of rejection, appellants present general arguments and merely note the additional features of each of claims 2 through 4 and of claims 8 through 12 (*id.*, pages 19-20 and 22).

We select one claim for consideration in each ground of rejection unless appellants provide reasons why an additional claim or additional claims in a ground of rejection is/are separately patentable. We point out that the controlling rule cautions that “[m]erely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.” Thus, we decide this appeal based on appealed claims 1, 2, 6, 8 and 13 as representative of the grounds of rejection and of groups of claims where appellants submit substantive arguments for separate patentability. 37 CFR § 1.192(c)(7) (2002); *see In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) (“*See* 37 CFR 1.192(c)(7) (2001). If the brief fails to meet either requirement, the Board is free to select a single claim for each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of the rejection based solely on the selected representative claim.”); *see also* 37 CFR § 41.37(c)(1)(vii) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

We affirm.

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the answer and to the brief and reply brief for a complete exposition thereof.

Opinion

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported position advanced by the examiner that, *prima facie*, the claimed process of dispersing fibrous paper stock encompassed by appealed claims 1, 6 and 13 would

have been obvious over the combined teachings of Egenes, Riquet and Aktiebolag⁵ to one of ordinary skill in this art at the time the claimed invention was made.

As an initial matter, we find that when the claim terms are given their broadest reasonable interpretation in light of the written description in the specification as interpreted by one of ordinary skill in the art, and without reading into the claims any limitation or particular embodiment disclosed in the specification, *see, e.g., In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), the plain language of appealed independent claim 1 specifies a process for dispersing fibrous paper stock comprising at least the specified steps. In the second step, the term “fibrous paper stock” would have been understood by one of ordinary skill in this art to mean “fibrous stock made from recycled paper” (specification, page 1, [0002]). The step of pressing “some” water, regardless of amount, from such stock can be done by any means that would thicken the stock to any extent in a consistent manner. We note that dependent claim 6 modifies claim 1 by specifying that “a worm extruder assists in the pressing of water out of the . . . stock,” which language includes “pressing” by any means assisted by a worm extruder.

The third step of the process of claim 1 specifies that the “mallet roll” must have a rotating shaft with objects extending therefrom which act as “mallets” that can “cooperate with fixed peripheral impact sections,” including “radially oriented staffs” (specification, page 7, [0031]), with respect to “loosening and distributing the highly consistent stock” by “breaking up the . . . stock” so it will pass “between the mallets and fixed peripheral impact sections.” The condition of the “broken up” stock at this point includes “the stock flow to the dispersing machine becomes very even” as described in the specification (pages 2-3, [0007]). The fifth and last specified step of this claim specifies “dispersing . . . loosened and distributed . . . stock in the dispersing machine” wherein this processing can include “creating very fibrous crumbs” (specification, page 3, [0007]).

The transitional term “comprising” opens the claimed processes encompassed by claim 1 to include steps, elements and materials in addition to those specified. *See In re Baxter*, 656

⁵ A discussion of Aktiebolag is not necessary to our decision. *See In re Kronig*, 539 F.2d 1300, 1302-04, 190 USPQ 425, 426-28 (CCPA 1976).

F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) (“As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term ‘comprises’ permits the *inclusion* of other steps, elements, or materials.”). For example, steam or hot water as well as bleach and other chemicals can be applied to the stock in the mallet roll and/or in the dispersing machine (specification, e.g., page 3, [0007]). Claim 13 specifies that the stock is transferred from the mallet roll to the central area of the dispersing machine via a screw conveyor by dropping it into the screw conveyor. The transitional term “comprising” would permit the inclusion of other means for this purpose in addition to the screw conveyor.

Turning now to the application of prior art to the claimed invention encompassed by claims 1, 6 and 13, we find that Egenes would have disclosed to one of ordinary skill in this art⁶ “a device for processing particulate material,” described as “especially wood fibre pulp and more specifically pulp containing recycle paper,” wherein “a very good mixing of steam and particulate material can be obtained so that the pulp is heated evenly,” and “[t]he pulp particles are reduced in size in that a rapidly rotating grinder is used to mix pulp and steam” (page 1, ll. 3-10 and 33-37, and page 2, ll. 1-17). Egenes discloses two embodiments, in the second of which

the first disc disperser can function as a predisperser where impurities are dispersed whilst the pulp is relatively cold, which will be advantageous for certain printer’s inks, such as laser and Xerox, whereas the second disc disperser will function as a main disperser whilst the pulp is hot, which will be advantageous in the case of impurities such as so-called stickies and so forth [Page 2, l. 34, to page 3, l. 3.]

Egenes describes **FIG. 3** as including screw press **18** as “a dewatering zone where the pulp is dewatered . . . [and] the pulp passes to the first disc dispenser 1” (page 4, ll. 24-28). We note here with respect to claim 6, that a “worm extruder” is a well known form of “screw press,” and appellants admit that it is known in the art to use “worm extruders” to “press out” fibrous stock suspensions, and that a worm extruder has a “conveyer screw” (specification, page 2,

⁶ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

[0003]]. See *In re Nomiya*, 509 F.2d 566, 570-71, 571 n.5, 184 USPQ 607, 611, 611 n.4 (CCPA 1975) With respect to the second embodiment, disc disperser 1 is “used as a predisperser,” and the disperser 8 is the “main disperser” that functions as a rapidly rotating grinder, wherein steam is introduced into main disperser 8 and can be introduced into predisperser 1 as well (page 4, ll. 9-11, and page 5, ll. 1-6 and 13-1). We note here with respect to claim 13, that the stock moves from predisperser 1 by dropping it into screw feeder or conveyor 7 which drops it into screw feeder 9 that introduces the stock centrally to main disperser 8. Egenes teaches that in the disclosed device, it is “possible to admix chemicals which bleach the pulp and/or improve the actual dispersion of the impurity particles in the pulp” (page 2, ll. 31-32, and page 5, ll. 8-11).

The examiner finds, and we agree, that the claimed process of dispersing paper stock made from recycled paper encompassed by claims 1, 6 and 13, as we have interpreted these claims above, differs from the process of dispersing particulate material containing recycled paper taught by Egenes in that the prior art process uses a disc disperser 1 instead of a mallet roll as defined in claim 1, as a predisperser. The examiner determines that *prima facie*, the combined teachings of Egenes and Riquet would have suggested to one of ordinary skill in this art to substitute the mallet roll shown in Riquet **Fig. 1** for the disc predisperser 1 of Egenes in the reasonable expectation that Riquet’s mallet roll would perform the same functions of predispersing the paper stock and mixing bleach therein as does Egenes’ disc predisperser (answer, pages 3-4). The examiner further points out that Riquet additionally discloses the disc disperser of Riquet **Fig. 3** (*id.*).

We find that Riquet acknowledges that it was known in the art “to remove fibers from old paper and paper pulps by treating them with hot water or vapor in a pulper for drying and mixing, and to subsequently bleach the paper pulp (pages 1-2). Riquet teaches that the mixing and bleaching functions can be combined by using, among others, a horizontal pulper shown in Riquet **Fig. 1** which is described as a cylindrical housing 1 with stationary hooks 4 and a rotating shaft 2 that has “a series of blades or hooks 3,” wherein “the assembly of movable and fixed hooks pulps and dries the old papers in order to transform them into a type of paste,” which is released “to the next stage” of the process by outlet 6 (pages 3-4). We find that one of ordinary skill in this art would have inferred that the “paste” is a viscous dispersion of paper stock solids

in a liquid. The apparatus provides for the supply of hot water or vapor and bleach through line 7 (page 4). Riquet further teaches the disc pulper shown in **Fig. 3** thereof that has “blades which allow for better pulping of the paste” (page 5).

We thus find that, *prima facie*, the combined teachings of Egenes and Riquet provide substantial evidence in support of the examiner’s position. Both the disc predisperser **1** of the second embodiment of Egenes and the mallet roll of Riquet **Fig. 1** are taught to be used to process pulps containing recycled paper by mixing the paper pulp stock to disperse the particulate material to form a dispersion or paste, to which bleach can be add. In this respect, neither apparatus is disclosed to provide the grinding action to form smaller particles as disclosed for the main disc disperser **8** of Egenes and the blade equipped disc pulper of Riquet **Fig. 3**.

Therefore, *prima facie*, one of ordinary skill in this art would have reasonably interchanged the disc predisperser **1** of the second embodiment of Egenes with the mallet roll of Riquet **Fig. 1**, in the expectation of obtaining the same or similar result. Accordingly, one of ordinary skill in this art routinely following the combined teachings of Egenes and Riquet would have arrived at the claimed invention encompassed by claims 1, 6 and 13 without resort to appellants’ specification. *See In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988) (“The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success, viewed in light of the prior art. [Citations omitted.] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”); *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881-82 (CCPA 1981)(“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *In re Siebentritt*, 372 F.2d 566, 567-68, 152 USPQ 618, 619 (CCPA 1967) (express suggestion to interchange methods which achieve the same or similar results is not necessary to establish obviousness); *see also In re O’Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988) (“Obviousness does not require absolute

predictability of success. . . . There is always at least a possibility of unexpected results, that would then provide an objective basis for showing that the invention, although apparently obvious, was in law nonobvious. [Citations omitted.] For obviousness under § 103, all that is required is a reasonable expectation of success. [Citations omitted.]”).

Accordingly, in view of the examiner’s *prima facie* case of obviousness, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants’ arguments in the brief and reply brief. *See generally, In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

Appellants’ contention that disc disperser 1 of Egenes is a grinder and thus the main disperser (brief, e.g., pages 7-8; reply brief, e.g., pages 2-4), is directed to the first embodiment of this reference wherein that is so, but does not address the relied on second embodiment where Egenes discloses that disc disperser 1 is a pre-disperser and disc disperser 8 is the grinder. In this respect, appellants’ arguments that one of ordinary skill would not have used the apparatus of Riquet **Fig. 1**, described as a “kneading” device used to “knead/mix stock,” to “replace grinder 1” of Egenes (brief, pages 8 and 9-13) also falls.

Appellants submit that the pulper of Riquet **Fig. 1** is not a mallet roll, contending that “[w]hile structurally similar, the kneading devices (as well as the disperser) of [Riquet] are structured to knead the stock suspension, i.e., to massage or mix the stock, whereas a mallet roll, as disclosed in the instant application, is directed to breaking up or apart a plug of highly consistent stock,” and that the prior art device “is intended to operate on different material and in a distinct manner from the mallet roll recited in at least independent claim 1” (brief, pages 9 and 16). We do not agree.

The “mallet roll” is defined by claim 1 as we have interpreted that claim (*see above* p. 4). We find that the pulper of Riquet **Fig. 1** meets all of the claim limitations, including the presence of objects extending from the rotating shaft which can act as “mallets” and stationary objects attached to the cylinder housing which can act as “peripheral impacts sections,” which two sets of objects “cooperate” to break-up or disperse the stock when the stock passes therebetween, forming a dispersion or paste of particulate stock which would evenly flow. Indeed, we find no

claim limitation in claims 1, 6 (brief, page 17) and 13 which specifies “a plug of highly consistent stock” with respect to “fibrous paper stock” or “highly consistent coarse fibrous stock,” and we find no basis in the claim language or in the written description in the specification to read such language into the claims. *See Morris, supra; Zletz, supra*. Thus, appellants’ arguments in these respects are not persuasive. *See In re Self*, 671 F.2d 1344, 1348-49, 213 USPQ 1, 5 (CCPA 1982). We further find it of interest that the structure of the pulper illustrated in Riquet **Fig. 1** is remarkably similar to the structure of the “mallet roll” illustrated in specification **Fig. 3**.

We also find no limitation in claim 13 requiring “adding steam to the material in the dispersing device” (brief, page 17). To the extent this limitation appears in claim 16 (*id.*), we pointed out above that Egenes provides for the introduction of steam in disc predisperser 1 and main disc disperser 8, as does Riquet in the horizontal pulper of **Fig. 1** thereof.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Egenes, Riquet and Aktiebolag with appellants’ countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1, 5 through 7 and 13 through 16 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported position advanced by the examiner that, *prima facie*, the claimed process of dispersing fibrous paper stock encompassed by appealed claim 2 would have been obvious over the combined teachings of Egenes, Riquet, Aktiebolag⁷ and Kriebel ‘653 to one of ordinary skill in this art at the time the claimed invention was made.

The examiner points out that Kriebel ‘653 discloses that disc dispersers, such as that of disc disperser 8 of the second embodiment of Egenes, “conventionally have several lines of teeth on the surface of the discs to help disperse the paper stock” (answer, page 5), as required by claim 2. We find such disclosure in col. 3, ll. 10-25, and disperse zone 9 of **Fig. 1** as described at col. 4, l. 63, to col. 5, l. 5, of Kriebel ‘573 (*see above* note 4).

⁷ A discussion of Aktiebolag is not necessary to our decision. *See Kronig, supra*.

Accordingly, in view of the examiner's *prima facie* case of obviousness, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants' arguments in the brief. *See generally, Oetiker, supra; Piasecki, supra.*

We considered above appellants' arguments with respect to the combined teachings of Egenes, Riquet and Aktiebolag (brief, pages 18-19), and Kriebel '653 is not relied on in such respects. We find no argument advanced by appellants which establishes that Kriebel '653 does not provide the teachings relied on by the examiner (*see* brief, pages 19-20).

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Egenes, Riquet, Aktiebolag and Kriebel '653 with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 2 through 4 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported position advanced by the examiner that, *prima facie*, the claimed process of dispersing fibrous paper stock encompassed by appealed claim 8 would have been obvious over the combined teachings of Egenes, Riquet, Aktiebolag, Davenport and Kriebel '653⁸ to one of ordinary skill in this art at the time the claimed invention was made.

Claim 8 further limits claim 1 by specifying "rotating the mallets at a circumferential speed in a range between about 1 to 5 m/s." The examiner finds that Davenport discloses at col. 14, l. 5, to col. 15, l. 14, "using a mallet roller (Figure 8(62)) to predisperse and shred paper stock pieces less than 6 inches (152 mm) prior to a disc disperser and teaches that the mallet roller reduces the energy needed to disperse paper stock" (answer, page 5). We note in this respect the teachings at col. 5, ll. 6-7 and 13-15, and col. 6, ll. 58-67, of Davenport. On this evidentiary basis, the examiner concludes that "[i]t would have been obvious to use a slower speed of rotation for the predisperser of . . . [Egenes] as Davenport teaches that the mallet saves energy over predispersing machines" (answer, page 5).

⁸ A discussion of Aktiebolag and Kriebel '653 is not necessary to our decision. *See Kronig, supra.*

We find that the disclosure in Davenport would have reasonably suggested to one of ordinary skill in this art that the process parameters are result effective variables. Thus, as the examiner points out, *prima facie*, this person would have arrived at a workable or optimum range for any and all of these variables. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (“[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”).

Accordingly, in view of the examiner’s *prima facie* case of obviousness, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants’ arguments in the brief. See generally, *Oetiker, supra*; *Piasecki, supra*.

We considered above appellants’ arguments with respect to the combined teachings of Egenes, Riquet and Aktiebolag (brief, pages 21-22), and Davenport and Kriebel ‘653 are not relied on in such respects. We find no argument which establishes that Davenport does not provide the teachings relied on by the examiner (*see* brief, pages 21-22).

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Egenes, Riquet, Aktiebolag, Davenport and Kriebel ‘653 with appellants’ countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 8 through 12 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner’s decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

AFFIRMED

Edward (Kunil

EDWARD C. KIMLIN

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BOARD OF PATENT
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Appeal No. 2004-2284
Application 09/832,873

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